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TOWARDS A NEW CHEMICAL WARFARE POLICY

BY

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TOWARDS A NEW CHEMICAL WARFARE POLICY

AN INDIVIDUAL STUDY PROJECT

by

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## Abstract

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Now that the stability of the cold war bipolar world has been ended by the demise of Soviet superpower status, the world is likely to be more turbulent and the possibility that United States military forces will become involved in conflict seems more likely. The proliferation of chemical weapons in recent years has increased the likelihood of chemical warfare. Throughout history chemical weapons have proven to be logistically difficult to employ, highly dependent upon environmental factors of terrain and weather, and relatively easy to defend against. On a tactical and operational level chemical weapons have displayed only a minimal level of effectiveness. Nevertheless, the ominous specter of chemical weapons being unleashed upon unprotected civilian targets has created a strong and enduring political anathema against the use of these weapons. In a chemical attack upon our cities, nuclear retaliation would be more punishing and thereby more appropriate than chemical retaliation. In an occurrence of a tactical chemical attack against our military forces, a conventional retaliation would be more punishing and thereby more appropriate than chemical retaliation. Our chemical defense capability is inadequate and should be improved. Our policy should be to completely repudiate the use of chemical weapons and destroy our stockpile because they offer us neither a worthwhile deterrence nor retaliatory capability. Our retention of chemical weapons gains us no military advantage and burdens us with a political albatross.

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## INTRODUCTION

### PROBLEM

There exists today an increased probability of conflict for United States military forces. The cold war is over. During the cold war, our country's policies in the international arena were based upon the philosophy of containment. This philosophy stemmed from the bipolar nature of the world order during the cold war.

A bipolar world is more peaceful than a multipolar world.<sup>1</sup> Theoretically, in a bipolar world, the two superpowers will hold each other in check and by doing so divide the industrialized world into two non-warring camps. Conflict within and among non-aligned, developing Third World nations will be dampened by the superpower stalemate. The breakdown of bipolarity will yield a unipolar or multipolar international order. Either way, the theoretical model predicts an increased probability of conflict due to the loss of the dampening effect of the superpower stalemate.

Two real world factors substantiate the model's prediction, especially for increased involvement in Third World conflicts. The first factor is that even the cold war superpower stalemate

did not prevent bloody superpower-Third World fighting. Witness the wars in Vietnam and Afghanistan. The second factor is that our stated national interests and objectives call for, in addition to national survival, a healthy, growing economy within a stable secure world.<sup>2</sup> These are not isolationist goals. Given the increasing worldwide economic interdependence and the developing nationalism of Third World nations, the probability of our military becoming involved in future conflicts is directly proportional to our country's willingness to pursue our stated goals.

There also exists within the world today an increased capability to conduct chemical warfare. The chemical warfare capable community includes not only the industrialized nations but also many Third World nations such as Ethiopia, Cuba, Angola, Nicaragua, Egypt, Syria, Libya, Iraq, North and South Korea, Vietnam, and South Africa.<sup>3</sup> There are many additional nations actively seeking to develop a chemical warfare capability. Along with possession of a chemical warfare capability there also appears to be an increased willingness to use chemical weapons.

Our problem, then, is that the increased probability of conflict coupled with the increased chemical warfare capability throughout the world presents the United States military with the ominous specter of a chemical warfare battlefield environment in the near future.

### PURPOSE

The purpose of this paper is to recommend a new United States' policy for the use of chemical weapons.

### APPROACH

This paper examines the history of chemical weapons, then analyzes historical factors in the light of the post cold war era. Finally, it derives a recommended chemical warfare policy.

For the purpose of this paper, chemical warfare involves the direct or indirect use of gasses, vapors, or mists to kill, disable or threaten to kill or disable human, animal, or plant life. This definition includes using defoliants and riot control agents as part of chemical warfare but does not include using smoke screening or signalling devices nor does it include using flame producing weapons.

## HISTORY OF CHEMICAL WARFARE

1899 - 1925

"A greenish-gray cloud had swept down upon them, turning yellow as it passed over the country, blasting everything it touched, shrivelling up the vegetation... [the soldiers] were blinded, coughing, chests heaving, faces an ugly purple color, lips speechless with agony, and behind them in the gas soaked trenches we learned that they had left hundreds of dead and dying comrades... It was the most fiendishly wicked thing I have ever seen."<sup>4</sup> Thus read an unofficial newspaper account concerning the first lethal occurrence of chemical warfare. It vividly illustrates the unique psychological effect of chemical weapons. Mankind's first impression of this new type of warfare was indeed a frightening one.

The time was 1915, the place was Ypres. Europe was engaged in the Great War. It was to be the war to end all wars. Neither side had a full appreciation of the advantage technology had given the defensive side of ground combat. The battlefield had become a stationary face-off between two forces dug in across a "no-man's land." Neither side could gain an advantage. Both sides sought an offensive momentum. The Germans felt that



perhaps chemical warfare could provide a breakthrough.

There was a political risk to Germany associated with the initiation of chemical warfare. The Hague Gas Declaration of 1899 specifically banned the "use of projectiles the sole purpose of which is the fusion of asphyxiating or deleterious gasses."<sup>5</sup> Germany had signed the Hague Agreement. Even before chemical weapons had ever been used there existed an international opinion that chemical warfare should not be conducted. That opinion was manifested in the Hague Declaration.

The opinion was not unanimous, however. The United States did not feel that it was more inhumane to use chemical weapons than to use other types of weapons and, accordingly, did not sign the Hague agreement.<sup>6</sup> The United States envoy to the Hague Conference was Captain Alfred T. Mahan, USN, who said "It was illogical and not demonstrably humane to be tender about asphyxiating men with gas, when all were prepared to admit that it was allowable to blow the bottom out of an ironclad at midnight, throwing four or five hundred men into the sea, to be choked with water, with scarcely the remotest chance of escape."<sup>7</sup>

Despite having signed the Hague Agreement, Germany nonetheless risked international censure and unleashed chemical warfare at Ypres, Belgium at 1800 on 22 April 1915. The intent was to reduce the salient there. The Allied troops, unprepared and unprotected, were taken by surprise. Many casualties resulted and the Germans gained some ground, yet they neither reduced the salient nor gained offensive momentum. They were unable to assault through the gas cloud they had created and exploit the

opportunity.

Ypres was the only time during World War I that chemical weapons achieved a tactical gain, even though both sides used chemical weapons frequently during the rest of the war.<sup>8</sup> Brigadier General EDMONDS stated that during World War I chemical weapons "achieved but local success; it made war uncomfortable, to no purpose."<sup>9</sup> Throughout the rest of the war, chemical weapons were harassing weapons. They had a limited tactical effect and no operational or strategic effect. Their greatest asset was their psychological effect.

Political repugnance towards chemical warfare continued throughout the war. The London Times reported that Germany had devised an "atrocious method of warfare" that would "fill all races with a new horror of the German name."<sup>10</sup> Although the Allies vehemently denounced the German use of chemical weapons, they initially shrouded their own use in secrecy.<sup>11</sup>

Little is known about the casualty producing effect of chemical weapons during World War I. They certainly produced more casualties among unprotected, untrained troops than against protected, trained troops. Russian gas casualties were relatively higher because they were mostly unprotected.<sup>12</sup> Only the Americans kept chemical casualty statistics. The often referenced result is that twenty five per cent of all the American casualties were due to chemical weapons.<sup>13</sup>

This figure is both misleading and suspect. It is misleading because, although United States forces were committed to combat in World War I after chemical weapons had been used by both

sides, the American troops were woefully untrained and unprotected.<sup>14</sup> American chemical casualties went down as the troops received better equipment and better training. General Pershing said that the effect of gas was deadly to the unprepared, but that, in general, gas was not a producer of battle deaths.<sup>15</sup>

The twenty five per cent casualty figure is suspect because it includes many illnesses that were not due to chemical weapons but were reported as such because of the unfamiliarity of medical personnel with this new form of warfare.<sup>16</sup>

The experience of having American soldiers being attacked with poison gas may have changed the attitude of the United States concerning the inhumanity of chemical weapons. General Pershing had a strong dislike for chemical weapons.<sup>17</sup> After the war, the United States invited Great Britain, France, Italy, and Japan to a conference on arms limitations. The result was the Washington Naval Treaty. This treaty banned the use of chemical weapons since they had been "justly condemned by the general opinion of the civilized world."<sup>18</sup>

The treaty, however, was worded so that it did not become effective unless all attendees signed it. France did not sign because of a disagreement with the provisions dealing with submarine warfare. The treaty was therefor ineffective. Nevertheless, the Washington Naval Treaty was the first time that the United States put forth an official stance against chemical weapons.

A significant international chemical weapons ban resulted from the Conference For The Supervision Of The International Trade In Arms And Ammunition And In Implements Of War held in Geneva, Switzerland in 1925.<sup>19</sup> The "Geneva Protocol of 1925," as it is commonly referred to, specifically banned the "use in war of asphyxiating, poisonous or other gasses, and all analogous liquids, materials, or devices."<sup>20</sup> The Geneva Protocol, however, did not ban production, purchase, or possession, only use.

Although the United States signed the Geneva Protocol of 1925, it was not ratified by the Senate because many felt that regardless of how bad chemical warfare was, for our own protection we needed the capability to retaliate to a chemical attack with chemical weapons of our own.

#### 1925 - 1975

Italy signed the Geneva Protocol of 1925. Nevertheless, Italy made widespread use of chemical warfare against the unprotected Abyssinians in 1935. The Italian forces also used gas to interdict supply lines, causing casualties among cattle, pack animals, and camp followers.<sup>21</sup> Italy originally denied charges by Ethiopia that the Italian forces were using gas because Mussolini did not want to tarnish the fascist prestige. Eventually Mussolini admitted before the League of Nations that the Italian forces used gas but he insisted that it was used in retaliation for Abyssinian atrocities.<sup>22</sup>

The Abyssinians were unprotected and untrained. They had no capability to retaliate in kind. They were barefoot primitives arrayed against a modern, well equipped force which enjoyed overwhelming air superiority.<sup>23</sup> The Abyssinian cause was lost at the outset of hostilities. It cannot be said that the Italian use of chemical warfare had any operational or strategic effect. Its tactical effect was due to the unprotected and untrained status of the Abyssinians. In fact, the most significant effect of the Italian use of chemical warfare was the negative political effect against the Italians themselves.

Although Japanese forces did use chemical weapons against Chinese forces off and on from 1937 to 1941, it appears that the Japanese use was not widespread, perhaps even experimental. Few casualties resulted.<sup>24</sup>

Neither side conducted chemical warfare during World War II. Although all of the belligerents had developed some degree of chemical warfare capability, none wanted to risk chemical retaliation.

Chemical weapons are not weapons of maneuver; they are more suited to a stationary, immobile, World War I type of battlefield environment. Germany felt that the offensive use of gas did not fit in with blitzkrieg tactics. Hitler was strongly opposed to the use of chemical weapons, perhaps due to his own personal experience of being gassed during World War I.<sup>25</sup> Furthermore, the German fear of chemical retaliation upon unprotected German cities intensified as the Allies gained air superiority.

After 1941 Tojo forbade the use of chemical weapons completely because Japan lacked the industrial capability to support widespread chemical warfare and because the densely populated Japanese island homeland was extremely vulnerable to chemical retaliation.<sup>26</sup>

President Franklin D. Roosevelt was strongly opposed to the use of chemical weapons except for retaliatory purposes. Neither were the American military leaders disposed towards initiating chemical warfare. Admiral William Leahy, Roosevelt's chief of staff, stated that chemical warfare "would violate every Christian ethic I have ever heard of and all the known laws of war."<sup>27</sup> Among the World War II belligerents, the United States had the least to fear from chemical attacks upon her population centers. Restraint, rather than fear of direct retaliation, motivated America's chemical policy during World War II.

Winston Churchill was very much in favor of initiating chemical warfare despite a report from Brigadier Kenneth N. Crawford, the Inspector of Chemical Warfare, who warned that British use of gas could "alienate American opinion, leave Britain's limited means of chemical production vulnerable to attack and deflate public morale by initiating a form of warfare which could not be continued effectively while exposing Britain to enemy retaliation."<sup>28</sup> Major General Kenneth Loch, Director of Home Defence, stated that initiating chemical warfare would be "throwing away the incalculable moral advantage of keeping our pledged word for a minor tactical surprise."<sup>29</sup> Somewhat later,

Churchill himself, when proposing an initiation of chemical warfare, stated that "I do not see why we should always have all the disadvantages of being the gentleman while they have all the advantages of being the cad."<sup>30</sup> Nevertheless, especially at the beginning of the war, Britain did fear retaliatory chemical attacks on her crowded cities.

No one intentionally attacked civilian population centers during World War I. During World War II, both the Allied forces and the Axis forces felt that it was morally justifiable to attack such targets. Since the cities were now open to conventional attacks, they would also be open to chemical attacks if chemical warfare were initiated.

Even more than the actual physical casualties that would result from a chemical attack upon closely packed, unprotected civilians, world leaders undoubtedly also feared the debilitating psychological effect upon the will of the populace and the possible domestic political backlash. Although bearing up under conventional attacks could perhaps strengthen the resolve and will of the people to continue the fight, chemical attacks could perhaps achieve an opposite effect due to their frighteningly insidious lingering characteristics. In July, 1944 the British Joint Planning Staff reported that "the public might resent being subjected to gas attack if it felt that this could have been avoided."<sup>31</sup>

The United States alone did not have to fear a chemical attack upon its cities. American leaders seemed concerned with the moral aspects of initiating chemical warfare. During World War II, State Department and JCS papers consistently referred to chemical warfare as "this inhuman method of warfare" or "this particularly inhuman form of warfare."<sup>32</sup> Although the American public probably would have supported chemical retaliation, they may not have supported an American first use of chemical weapons. Domestic political considerations may have stayed the American hand. Nevertheless, American leaders were also concerned about chemical attacks upon their Allies' cities.

Chemical warfare was deterred during World War II. According to at least one historian, "the threat of counter-city retaliation was the most powerful deterrent to gas warfare."<sup>33</sup>

Chemical weapons were not used during the Korean War. During the Vietnam War, however, the United States made extensive use of chemical weapons. Operation Ranch Hand was conducted off and on from 1962 to 1970. This operation called for herbicides, such as Agent Orange, to be sprayed from aircraft.<sup>34</sup> The purpose was to clear the thick jungle cover and facilitate target acquisition to support ground operations. Ten per cent of South Vietnam was sprayed.

Today, thirty per cent of the country's mangroves have been converted into "muddy wastelands" with residues of Agent Orange still in the soil.<sup>35</sup> Evidence seems to indicate that Agent Orange may have caused miscarriages, still births, and birth defects both in South Vietnam and in the children of Vietnam



veterans in the United States.<sup>36</sup> A lawsuit by 20,000 United States veterans was settled out of court in 1984. The claim is no longer being investigated.

The United States also used riot control agents, such as tear gas, in conjunction with conventional munitions during ground operations. The synergistic effect was more lethal than conventional weapons alone when used against unprotected troops.

The repugnance with which the world community viewed this outbreak of chemical warfare was evidenced by the fact that in 1969 the United Nations General Assembly declared that herbicides and riot control agents were prohibited by the Geneva Protocol of 1925.<sup>37</sup> Even though Congress had not ratified the Geneva Protocol of 1925, in 1969, a congressional study found that "our policies in Vietnam have made chemical-biological warfare a little more respectable and may have made chemical-biological proliferation a real danger."<sup>38</sup>

On 25 November 1969, President Nixon announced the United States' policy towards chemical weapons. It is a policy which has remained to this present day. He stated that the United States would never make first use of chemical weapons although it would maintain the capability to respond in kind to a chemical attack against it. President Nixon, however, excluded herbicides and riot control agents from his "no first use" policy.

In August, 1970 President Nixon resubmitted the Geneva Protocol of 1925 to the Senate for ratification. The Senate, however, refused to ratify the treaty because of the exception made by President Nixon for herbicides and riot control agents.

In December, 1974 President Ford agreed to consider no first use of herbicides and riot control agents. As a result, in January, 1975 the United States Senate finally ratified the Geneva Protocol of 1925.<sup>39</sup>

#### 1975 - PRESENT

The reported instances of chemical warfare between 1975 and the outbreak of the Iran-Iraq War in 1980 have several characteristics in common. Except for the Soviet Union's use of gas in Afghanistan ('79 - '81), the instances have not involved industrialized nations (Laos, '75 - '81; Cambodia, '78 - '81).<sup>40</sup> For the most part, they have featured the use of chemical weapons against unprotected soldiers and civilians. It also seems that new, experimental chemical weapons were used.

Apparently, the perpetrators felt that their use of chemical weapons would go largely unnoticed and the risk of worldwide political censure would be minimal. In fact, the inaccessibility of many of the locations where chemical weapons were reported to have been used has hampered timely neutral investigations. A lengthy time interval between a reported use of chemical weapons and an on-site investigation weakens the strength of the evidence and substantiates plausible denial.

Iraq conducted chemical warfare against Iran during the eight year long Iran-Iraq War. At the outset of the war, Iraq vehemently denied using chemical weapons. As the war dragged on, however, and the evidence mounted, Iraq freely admitted to using chemical weapons. The terrain over which much of the Iran-Iraq

War was fought, marshes and mountains, were ideal for the use of persistent chemical weapons. Iranian forces were not well trained or equipped and suffered an inordinately high casualty rate.<sup>41</sup>

Nevertheless, throughout the entire eight year war, the Iraqis found that however useful chemical weapons were as a means of attrition against a relatively unsophisticated foe, chemical weapons could not dislodge a static position or achieve a decisive outcome.<sup>42</sup> The primary battlefield effect was psychological. In fact, the most effective use Iraq made of chemical weapons was against its own unprotected civilians. Hundreds were killed in 1988 when the Kurdish town of Halabja was attacked with chemical weapons to put down a rebellion.<sup>43</sup>

#### LESSONS LEARNED FROM HISTORY

This review of the history of chemical warfare reveals that the use of chemical weapons on the battlefield has two effects: a military effect and a political effect.

The military effect of chemical weapons used on the battlefield since 1915 has been minimal. There is no evidence that chemical weapons have been as effective as their conventional counterparts, particularly when used against trained, disciplined, well equipped troops. Nor is there any evidence that the use of chemical weapons has had a significant or critical effect on the outcome of a military campaign. Chemical weapons can perhaps best be described as secondary, or supplementary, because of their psychological or morale lowering aspects.

The political effect of chemical weapons used on the battlefield since 1915 has been substantial. International fora to restrict chemical warfare have actually predated the first occurrence of chemical warfare and have continued up to the present time. Nations which have engaged in chemical warfare have attempted to shroud their activities in secrecy, sometimes even from their own populations. The negative political connotation of chemical warfare has been strong, universal, and consistent.

History thus presents chemical warfare as an entity whose substantial negative political effect seems out of context with its minimal military effect. This is the chemical warfare dichotomy. Since World War I, nations have seemed to be aware of this dichotomy. Because of their military ineffectiveness, after 1918, chemical weapons have been used primarily against unprotected targets or retained in arrears for deterrence and retaliatory purposes. Because of the negative political aspects of chemical weapons, nations using such weapons have often attempted to cover up or deny their use.

This chemical warfare dichotomy is the basis for developing a new chemical warfare policy for the United States.

## A NEW CHEMICAL WARFARE POLICY

### THE CHEMICAL WARFARE DICHOTOMY

We have learned from history that chemical warfare is an entity whose substantial negative political effect is out of context with its minimal military effect. Let us now examine the reasons for this dichotomy. Chemical weapons have not been a dominant factor on the battlefield. There are three reasons for this. Compared to conventional weapons, chemical weapons are difficult to use, overly dependent upon environmental factors, and relatively easy to defend against.

A military force which decides to use chemical weapons increases its logistical problem immensely. Enormous quantities of the chemical must be dispersed. Large quantities of lethal material have to be manufactured, stored, shipped, and dispersed upon the enemy in a manner which is safe to friendly troops. The United States' experience with Agent Orange is testimony to the fact that danger to friendly troops rises with chemicals of greater lethality. Military units specifically trained and organized to wage chemical warfare have to be developed.

If the logistical hurdles are overcome, there is still Mother Nature to contend with. Terrain and weather have to be conducive to chemical operations.

Although the first lethal instance of chemical warfare was at Ypres in April, 1915, the first large scale use of chemical weapons actually occurred three months earlier. On 31 January 1915, the Germans shot 18,000 gas artillery shells on the Eastern Front against the Russians. The freezing cold temperature, however, prevented vaporization and there was absolutely no effect.<sup>44</sup> The first use of chemical weapons, then, was not lethal because of environmental factors.

Even at Ypres, the Germans had the gas cylinders in place and ready by 10 March 1915. They had to wait until 22 April for favorable winds which would take the gas over the Allied trenches.<sup>45</sup> In 1935 the Italians had problems with gusty winds, sudden showers, and the hot sun.<sup>46</sup>

Finally, if the logistical hurdles are overcome and the environmental conditions are ideal but the targeted foe is well trained and equipped, the result may hardly be worth the effort put forth. In fact, without the element of surprise, even the psychological effect will be minimal against well trained troops.

Mere possession of chemical weapons does not constitute a chemical defense. Quite arguably, the best defense against chemical warfare may very well be one of the fundamentals of Air-Land Battle doctrine, namely, maneuver. It is hard to hit a moving target with any weapon, conventional or chemical.

There are many aspects to chemical warfare defense such as detection, protection, dispersion, and decontamination. The technological state of the art in these areas is primitive. At the end of World War I, General Pershing wrote about the impact

of three weapons upon the conduct of that war. The three weapons were the tank, the airplane, and poison gas.<sup>47</sup> Despite the tremendous technological development of the other two weapons systems since World War I, chemical defense today is technologically at the same level as it was during World War I. What we have today is nothing more than a product improvement over World War I equipment.

We should devote more research and development resources to chemical weapons defense. Detection, protection, dispersion, and decontamination are not the only aspects of chemical defense that could be explored. Two other areas with a potentially high payoff are prediction and avoidance. Chemical weapons are limiting. A belligerent with a given amount of certain chemicals and a known delivery system has a very narrow employment window when the parameters of terrain and weather are also brought into play. It is feasible that computers could be programmed to simulate this employment window to a useful degree. These simulations could then be used to identify when and where chemicals could be effectively used and steps could be taken to avoid being struck.

Chemical weapons are logistically difficult, environmentally constrained, and able to be defended against. Directed research and development could render chemical weapons more easily to be defended against. The military potential of chemical weapons on the battlefield is relatively small.

Despite their lack of efficacy on the battlefield throughout history, chemical weapons have been prominent players in the political arena. Although there have been several weapons which, for some reason or other, nations have felt should not be used in warfare for humanitarian or moral reasons, none have endured a unanimous disdain for such a long period of time as have chemical weapons. A large part of this is undoubtedly due to the strong fear many people have of poison gasses.

This innate, universal fear of chemical weapons forming a basis for negative political connotations was made quite clear during World War II. During the largest war the world has ever seen, the war that ushered in the nuclear age, chemical weapons were not used. They were not used because of the fear of chemical attacks upon crowded cities. The Iraqi attack at Halabja is history's only account of a chemical attack upon an unprotected civilian residential area.

The imagination, however, can be fueled by the tragic chemical accident that occurred in Bhopal, India in December, 1984. Although it was an accident, not an intentional chemical attack, the results were similar. Silently, overnight more than 2,500 people were killed and more than 3,000 were critically injured. A Time Magazine correspondent on the scene less than thirty hours later reported that,



"At the factory, dead bodies were still on the ground, being picked up and loaded aboard a waiting truck. Everywhere one turned, people were retching, bent over horribly, racked by violent coughing that brought a red froth to their lips. All the shops in the city were closed, and on every street people were lying in the gutters. They were dead, humped in agonized frozen postures, like birds shot from the sky. In their midst were real birds, vultures flapping their wings and shrieking at the wild looking dogs to keep their distance. The dogs growled and waited their chance; when the vultures swooped away, the dogs would charge in and tear off pieces of flesh."<sup>48</sup>

It is interesting to note that in Hollywood's motion picture epic, "The Ten Commandments" (the one with Charlton Heston), the moviemakers chose to depict the Angel of Death as a poisonous gas.

The fear of chemical weapons may even eclipse the fear of nuclear weapons. Two modern day journalists interviewing a group of soldiers reported that they "dismissed the final cataclysm of the nuclear battlefield with a cheery fatalism. Yet the prospect of biological and chemical war seemed to fill them with a particular dread."<sup>49</sup> Since chemical weapons are obviously no more immoral than Bowie knives or hand grenades, it seems to be this "particular dread" that has fueled the universal political repugnance towards chemical warfare throughout the years.

There are two lessons to be learned about this chemical warfare dichotomy. The first is that chemical weapons have a minimal military effect because they are logistically difficult to use, overly dependent upon the environment, and relatively easy to defend against. The second is that fear of chemical weapons, especially the fear of their use on an unprotected civilian populace, has led to a political repugnance against chemical warfare throughout the international community. Political considerations, as a major factor in future conflicts involving the United States, especially limited conflicts, could conceivably override military considerations when formulating a policy for the use of chemical weapons.

#### THE CHEMICAL WARFARE FALLACY

The chemical warfare dichotomy is the basis for developing a new chemical warfare policy. Before we delve into policy development, however, we should say a few words about the curious way chemical warfare is misunderstood by many people. This misunderstanding has been caused by linking together nuclear, biological and chemical weapons. It stems from our fondness for abbreviations.

We talk about ABC warfare in a single breath as if such an animal actually existed. ABC refers to Atomic, Biological, and Chemical. Similarly, NBC refers to Nuclear, Biological, and Chemical, whereas Chemical, Biological, and Radiological yields CBR. ABC, NBC, and CBR are convenient mental niches. The misunderstanding occurs because there is a tendency to consider

chemical warfare, nuclear warfare, and biological warfare as a single concept or as variations of the same concept, not as three separate concepts. There are many more differences between these three completely different types of warfare than there are similarities. The convenient abbreviations indicate otherwise.

The unfortunate result is that chemical weapons, which we do not understand, are viewed in much the same manner as nuclear weapons, which we think we understand. This is the chemical warfare fallacy. It perhaps explains why chemical weapons are referred to as weapons of mass destruction as are nuclear weapons. We also see references to chemical deterrence as if it were the same thing as nuclear deterrence. Possession of chemical weapons has even been classified as having a "poor man's nuke." Chemical weapons are not nuclear weapons and should not be viewed in the same way.

Mere possession of a nuclear warfare capability has proven to be a defense against nuclear attack. This is due to the deterring and retaliating capability that goes along with a nuclear warfare capability. Nuclear weapons are truly weapons of enormous mass destruction. The destructiveness of chemical weapons is not of the same magnitude. The recent Iraqi use of chemical weapons at Halabja indicates that the closest chemical weapons can come to being weapons of mass destruction is when they are used upon completely unprotected civilians. The tragic chemical accident which occurred at Bhopal, India in 1984 is another example. In both cases the damage, although dreadful, was neither as extensive nor as residual as the nuclear

detonations at Hiroshima and Nagasaki, which were small by today's nuclear standards.

Let's compare the military and political effects of nuclear and chemical weapons using conventional weapons as a base. Conventional weapons have a lethal military effect and an acceptable political effect. People may be anti-war but they may not necessarily be against conventional weapons themselves. Nuclear weapons have a destructiveness orders of magnitude greater than that of conventional weapons. On the other hand, nuclear weapons have a political effect which is extremely negative. People who are against nuclear weapons may not necessarily be anti-war. Chemical weapons have a military effect which is not as lethal as that of conventional weapons. The political effect of chemical weapons, however, is in the same negative neighborhood as that of nuclear weapons.

A clear understanding of these differences is needed to analyze the chemical warfare dichotomy and policy options for the use of chemical weapons.

## CHEMICAL WARFARE POLICY

We have noted that chemical weapons have a strong political effect and a weak military effect. We have also noted that chemical weapons are not the same as nuclear weapons. Let's now examine policy options when United States military forces are committed to a conflict. The issue at hand is whether the United States should wage chemical warfare. The issue has two parts. The first part is whether the United States should initiate chemical warfare even if its opponent has not done so.

The solution to the first part is driven by the strong negative international and domestic political condemnation that would accrue to our nation should it initiate chemical warfare. It is also driven by our own stated policy of no first use of chemical weapons. It is a wise policy and should be sustained.

The situation is different if our adversary uses chemical weapons first. Should we respond in kind? The national security policy of the United States states that we will maintain chemical weapons to deter the use of chemical weapons against us and that we will use them in retaliation if chemical weapons are used against us.<sup>50</sup> History has shown that mere possession of chemical weapons does not constitute a chemical defense. Let us now consider whether possession of a chemical warfare capability is of any value for deterrence or retaliation in the 21<sup>st</sup> Century.

Normally, deterrence has a strategic meaning when discussing a nuclear exchange. At the same strategic level, however, deterrence has meaning when considering large scale attacks of any kind, including chemical, against unprotected civilians crowded into metropolitan areas. Strategic deterrence, then, is not weapon specific. A nuclear warfare capability is a deterrent force for both nuclear and chemical attacks upon our cities. As far as strategic deterrence is concerned, a chemical warfare capability is superfluous.

Once the shooting has started, talking about chemical deterrence makes about as much sense as deterring the use of VT fuzes on artillery rounds. Any adversary who is not deterred by the awesome military, political, and economic power of the United States will not be deterred from using chemical weapons if he saw an advantage to doing so.

That brings us to retaliation. United States military forces will have a responsibility to retaliate to a chemical attack upon our population centers because this type of attack endangers our national survival. Even if the chemical attack were limited to one on our military forces fighting on some distant shore, there will be a responsibility to American citizens who have watched the horrifying spectacle of their sons and daughters being gassed on CNN as well as a responsibility to the support and morale of the troops themselves. Retaliation, nevertheless, does not have to be chemical. Retaliation should, however, be quick, violent, and unmistakable. If our national survival is at stake, compared to chemical weapons, nuclear

retaliation would be much quicker, more violent, and just as unmistakable. Yet an important aspect of future United States' policy should be that retaliation need not be nuclear. Conventional retaliation may be more appropriate for a limited chemical attack against us, especially if it were directed only against military forces in a war zone. Even then, conventional retaliation could be quicker, more violent, and just as unmistakable as a retaliatory chemical strike. Why settle for second best when the fruits of such labor will be swift political condemnation?

A "moral" political victory is gained by the recipient of the first chemical blow, especially for a limited chemical attack. In fact, the recipient of a limited chemical attack is "morally and politically" justified if he returns the favor with a chemical blow of his own. By doing so, however, he wipes the slate clean. If our forces were attacked with chemical weapons, we would then have an opportunity to politically and diplomatically exploit the resultant domestic and international outcry. Were we to resort to the use of chemical weapons ourselves in retaliation, the political exploitation opportunity would dwindle to insignificance. By using a relatively ineffective military weapon, we would defuse a potentially powerful political weapon.

In summary, a nuclear deterrent is better than a chemical deterrent against a strategic chemical attack. Similarly, the United States should not respond in kind to a limited chemical attack upon military forces alone. A conventional response would be more effective, both militarily and politically.

## CONCLUSION

The increased probability of conflict involvement for United States military forces coupled with the worldwide proliferation of chemical weapons presents a problem. Should our forces respond in kind to a chemical attack? This paper recommends that we do not.

We learn from history that there is a chemical warfare dichotomy. Chemical warfare has a strong negative political impact which is out of proportion to its relatively minor impact on the battlefield. The negative political impact has been due to the threat of chemical weapons against unprotected civilians. The minor military effect has been due to the logistical difficulties encountered when using chemical weapons, the dependence of chemical weapons upon favorable environmental conditions, and the ability of trained and equipped military forces to defend against chemical weapons.

There also exists a chemical warfare fallacy. Many have felt that since possessing an offensive nuclear capability has proven necessary to deter and defend against the use of nuclear weapons, the same must be true for chemical warfare. Possession of chemical weapons do not provide any degree of chemical



defense. On the strategic level, a nuclear deterrent capability renders a chemical deterrent capability superfluous. On the operational and tactical level, the conventional retaliatory option could be quicker, more violent, and just as unmistakable as the chemical option.

Furthermore, we can provide our forces with an effective defense against chemical weapons. Unfortunately, we have not done so and the chemical defense they have is woefully inadequate. We should devote more resources to research and development in this area.

Another consideration is that, in limited conflicts, the potential political gain from not using chemical weapons is greater than the potential military gain from using them.

The officially stated primary goal of the United States with regard to chemical warfare is to "achieve an effective, truly global ban on chemical weapons."<sup>51</sup> Current chemical warfare policy states that, until a global chemical weapons ban is achieved, we will maintain a stockpile of chemical weapons for deterrence and retaliation purposes.

It is the chemical warfare fallacy that leads many to wrongly believe that chemical weapons have a plausible deterring or retaliating role. They do not. It is the chemical warfare dichotomy that makes possession and use of chemical weapons a political liability instead of a military asset.

In 1969, some members of the United States Congress felt that our use of chemical weapons in Vietnam may have contributed to the proliferation of these weapons. Given the worldwide

influence of United States' policies, a complete repudiation on our part of any use of chemical weapons whatsoever, could conceivably be a major step towards achieving our ultimate goal of a global ban on these weapons.

It is a step which involves a potential risk, but a considerable potential political gain. We should destroy our chemical stockpile and invest in chemical weapons defense. In light of Operation Desert Storm, we should take that step now.

## ENDNOTES

1. John J. Mearsheimer, "Why We Will Soon Miss The Cold War," The Atlantic Monthly, August 1990, p. 35.
2. The White House, National Security Strategy of The United States, March 1990, p. 2.
3. Valerie Adams, Chemical Warfare, Chemical Disarmament, p. 22.  
Norman Polmar and Raymond A. Robinson, "Defending Against The 'Poor Man's A-Bomb'," U. S. Naval Institute Proceedings, February 1989, p. 100.
- James W. Williams, "Improving Chemical Defense Readiness," U. S. Naval Institute Proceedings, February 1989, p. 97.
4. Ibid., p. 25.
5. Lee David Klein, When Chemical/Biological Weapons Are Outlawed, Outlaws Will Have Chemical/Biological Weapons, p. 37.
6. Adams, p. 167.
7. Charles E. Heller, Chemical Warfare In World War I: The American Experience, 1917 - 1918, p. 3.
8. Edward M. Spiers, Chemical Warfare, p. 30.
9. Ibid., p. 32.
10. Ibid., p. 18.
11. Ibid., p. 30.
12. Adams, p. 43.
13. Ibid., p. 37.
14. Heller, pp. 38-43.
15. Ibid., p. 91.
16. Ibid., pp. 83-96.
17. Spiers, p. 40.
18. Klein, p. 43.
19. Ibid., p. 44.
20. Adams, p. 49.

21. Spiers, p. 91.
22. Ibid., pp. 91-92.
23. Ibid., p. 95.
24. Ibid., pp. 99-102.
25. Ibid., p. 78.
26. Ibid., p. 86.
27. Ibid., p. 85.
28. Ibid., p. 68.
29. Ibid., p. 67.
30. Ibid., p. 81.
31. Ibid., p. 83.
32. Frederick J. Brown, Chemical Warfare, A Study In Restraints, p. 292.
33. Spiers, p. 88.
34. Adams, p. 74.
35. Ibid., p. 79.
36. Ibid., p. 78.
37. Ibid., p. 77.
38. Ibid., p. 84.
39. Ibid., pp. 149-150.
40. Spiers, p. 107.
41. Lee Waters, "Chemical Warfare In The Iran/Iraq War," Military Review, October 1990, p. 63.
42. Adams, p. 89.
43. J. Paul Scicchitano, "U. S. Forces Could Face Iraq's Chemicals," Navy Times, 20 August 1990, p. 10.
44. Heller, p. 7.
45. Ibid., p. 7.

46. Spiers, p. 90.

47. Heller, p. 91.

48. Dan Brelis, "I Thought I Had Seen Everything," Time, 17 December 1984, p. 25.

49. Adams, p. 2.

50. National Security Strategy, p. 27.

51. Ibid.

## BIBLIOGRAPHY

- Adams, Valerie. Chemical Warfare, Chemical Disarmament.  
Bloomington and Indianapolis: Indiana University Press,  
1990.
- Brelis, Dan. "I Thought I Had Seen Everything." Time, Vol 124  
No. 25, 17 December 1984, p. 25.
- Brown, Frederick J. Chemical Warfare, A Study In Restraints.  
Princeton, New Jersey: Princeton University Press, 1968.
- Heller, Charles E. Leavenworth Papers No. 10 Chemical Warfare In  
World War I: The American Experience, 1917 - 1918. Fort  
Leavenworth, U. S. Army Command and General Staff College,  
Combat Studies Institute, September 1984.
- Klein, Lee David. When Chemical/Biological Weapons Are Outlawed,  
Outlaws Will Have Chemical/Biological Weapons.  
International Studies Seminar, Vanderbilt Law School,  
15 April 1988.
- Mearsheimer, John J. "Why We Will Soon Miss The Cold War." The  
Atlantic Monthly, Vol 266 No. 2, August 1990, p. 35.
- Polmar, Norman and Robinson, Raymond A. "Defending Against 'The  
Poor Man's A-Bomb'." U. S. Naval Institute Proceedings,  
Vol 115/2/1032, February 1989, p. 100.
- Scicchitano, J. Paul. "U. S. Forces Could Face Iraq's Killer  
Chemicals." Navy Times, 20 August 1990, p. 10.
- Spiers, Edward M. Chemical Warfare. Urbana: University of  
Illinois Press, 1986.
- Snow, Donald M. National Security. New York: St. Martin's  
Press, 1987.
- The White House, National Security Strategy of The United States.  
March 1990.
- Waters, Lee. "Chemical Weapons In The Iran/Iraq War." Military  
Review, Vol LXX, No. 10, October 1990, p. 56.
- Williams, James W. "Improving Chemical Defense Readiness."  
U. S. Naval Institute Proceedings, Vol 115/2/1032,  
February 1989, p. 97.